Declaration of Amsterdam

Cooperation in the field of connected and automated driving

14-15 April 2016

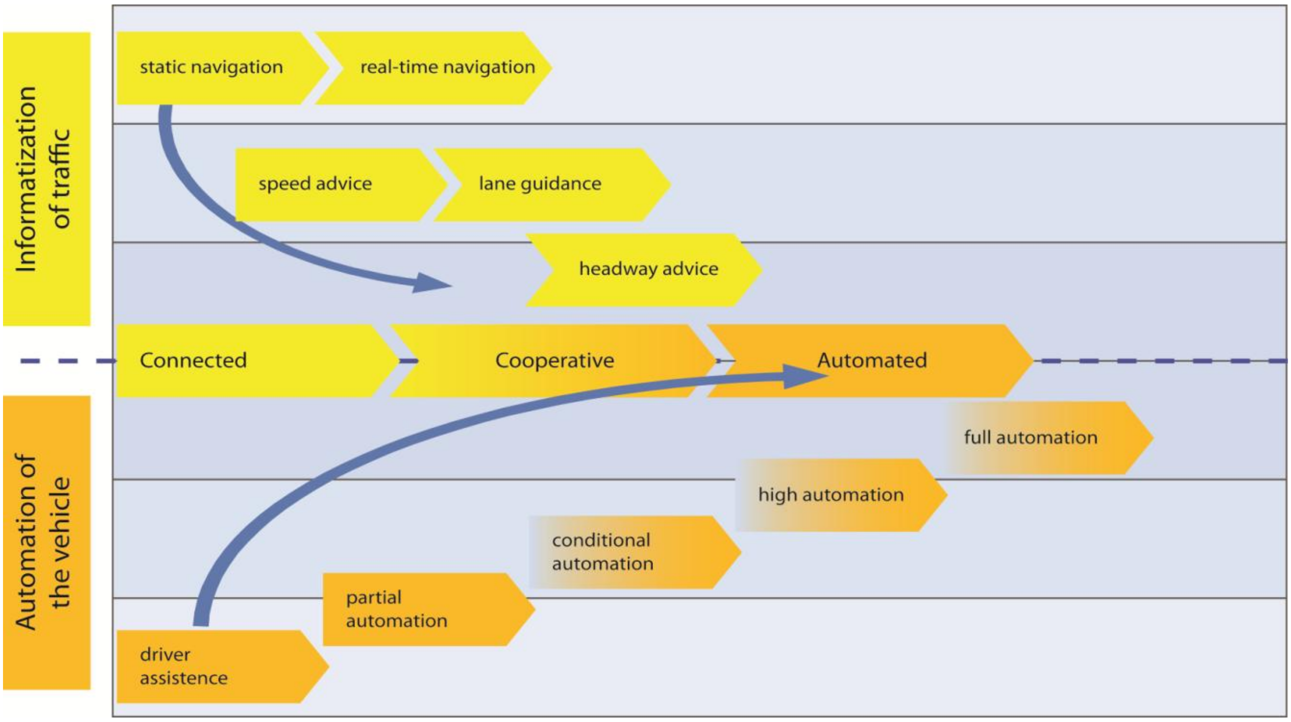
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on cooperation in the field of connected and automated driving

Navigating to connected and automated vehicles on European roads

14 April 2016



Connected, cooperative and automated driving developments should come together to harvest societal benefits.

INTRODUCTION

As a result of developments in the automotive, ICT and telecoms sectors and the introduction of connected and automated vehicles[1], mobility will change more in the next twenty years than in the past one hundred years. Further automation of vehicles and advances in information and communication technologies provide excellent opportunities to improve traffic flows and to make transport safer, cleaner and easier. This development could also strengthen the economy of Europe. Ultimately, once fully automated driving becomes possible on a large scale, there may be societal benefits beyond the aforementioned goals, in terms of social inclusion, improved mobility services in rural areas and cities, the development of mobility as a service and lower travel costs. These advantages should bring extra flexibility in door-to-door mobility, especially in the field of public transport, also to the benefit of the aging population, vulnerable road users and disabled persons. Furthermore, this innovation could be linked to other important developments such as a shared economy, decarbonisation of transport and the transition towards a zero-emissions society and the circular economy.

Besides technological progress, there are further challenges and uncertainties related to development of connected and automated vehicles. There are important questions to be answered regarding security, social inclusion, use of data, privacy, liability, ethics, public support and the co-existence of connected and automated vehicles with manually controlled vehicles.

Member States support the development of connected and automated driving through a range of initiatives, such as truck platooning, autopilot on the highway and the establishment of ITS-corridors. Connected and automated vehicles are already being tested on public roads and are gradually being introduced on the market for commercial use. In the early stages of this transition, open competition between different models and initiatives is needed to instigate creativity and innovation. However, both industry and users demand that new services and systems should be interoperable and compatible when crossing borders. The European Commission has taken important steps with the Cooperative Intelligent Transport Systems (C-ITS) platform, the Round Table on Connected and Automated Driving and the Gear 2030 initiative. Nevertheless, a more coordinated approach is called for between Member States and at European level to remove barriers and to promote a step-by-step learning-by-experience approach such as the European truck platooning challenge. It is essential to support an exchange of information of results and best practices by linking and integrating such initiatives.

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[1] This Declaration uses the terms connected and automated vehicles and driving. Connected includes cooperative driving: communication between vehicles and also with the infrastructure (C-ITS). Automated driving refers to the capability of a vehicle to operate and manoeuvre independently in real traffic situations, using on-board sensors, cameras, associated software, and maps in order to detect its surroundings. In the medium to long-term, automated driving functions will be expanded with the help of connectivity. Automated includes highly-automated and the development towards driverless vehicles.

DECLARATION OF AMSTERDAM

on
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ACKNOWLEDGING that connected and automated vehicle technologies offer great potential to improve road safety, traffic flows and the overall efficiency and environmental performance of the transport system;

RECOGNISING also the long-term potential for social inclusion and increased mobility in remote areas, as well as the link with other developments such as the shared economy, smart cities and the transition towards zero-emissions mobility and the circular economy;

RECOGNISING the technological, societal, legal, privacy-related, safety and security challenges and uncertainties related to the development of connected and automated vehicles;

EMPHASIZING the importance of Member State and EU initiatives supporting innovation in the field of connected and automated driving, in particular through the C-ITS platform, the Round Table on connected and automated driving and Gear 2030;

ACKNOWLEDGING the importance of strengthening the position of Europe as a world leader in innovative mobility and creating new global market opportunities for industry;

EMPHASIZING the added value of a more coordinated approach towards the development of connected and automated driving within the European Union, particularly in order to facilitate cross-border use, involving all relevant stakeholders and taking into consideration the need for convergence between complementary technologies;

RECOGNISING the need for a systemic approach to ensure that benefits for the transport system as a whole in terms of safety, health, efficiency and reduction of environmental impact and to support seamless door-to-door transport for people and goods as well as value-added services using data generated by connected and automated vehicles while at the same time ensuring data protection and right to privacy.

I SHARED OBJECTIVES

SUPPORTING the following objectives:

a. to work towards a coherent European framework for the deployment of interoperable connected and automated driving, which should be available, if possible, by 2019;

b. to bring together developments of connected and automated driving in order to reach their full potential to improve road safety, human health, traffic flows, and to reduce the environmental impact of road transport;

c. to adopt a "learning by experience" approach, including, where possible, cross-border cooperation, sharing and expanding knowledge on connected and automated driving and to develop practical guidelines to ensure interoperability of systems and services;

d. to support further innovation in connected and automated vehicle technologies to strengthen the global market position of European industry; and

e. to ensure data protection and privacy.

II JOINT AGENDA

AGREEING to develop and maintain a joint agenda with European stakeholders to support the shared objectives. This agenda should identify deployment paths for connected and automated driving in passenger and freight transport. The joint agenda should include the following topics:

a. **Coherent international, European and national rules**
The aim is to work towards the removal of barriers and to promote legal consistency. The legal framework should offer sufficient flexibility to accommodate innovation, facilitate the introduction of connected and automated vehicles on the market and enable their cross-border use.

b. **Use of data**
Data generated through the use of connected and automated vehicles can serve public and private value-added services. Clarification is needed on the availability for public and private use and responsibilities of the parties involved.

c. **Ensure privacy and data protection**
Respecting existing legislation on privacy and data protection, the conditions for the (re-) use and sharing of data generated by connected and automated vehicles need to be clarified.

d. **Vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) communication**
In order to maximize benefits in road safety and environmental performance, it is essential to ensure that new services and systems are compatible and interoperable at European level and to coordinate investments towards reliable communication coverage, exploit the full potential of hybrid communications, where relevant, and improve the performance of location accuracy, benefiting in particular from the use of GALILEO and EGNOS.

e. **Security**
In the light of the increase in cyber-threats and serious vulnerabilities, it is essential to ensure security and reliability of connected and automated vehicle communications and systems. Common trust models and certification policies should be developed to prevent risks and support cybersecurity, whilst ensuring safe and interoperable deployment.

f. **Public awareness and acceptance**
It is important to manage societal expectations, to raise awareness and increase acceptance and appreciation of connected and automated vehicle technologies.

g. **Common definitions of connected and automated driving**
Common definitions of connected and automated driving should be developed and updated, based on the Society of Automotive Engineering levels (SAE levels) as a starting point.

h. **International cooperation**
It is important to develop and maintain close cooperation with other regions, particularly the US and Japan, to work towards a global framework and international standards for connected and automated vehicles.

With a view to achieving these objectives, Ministers have identified the following actions for Member States, the European Commission and industry to support the introduction of connected and automated driving and to achieve its full potential:

III ACTION BY MEMBER STATES

a. **Close cooperation in UN-ECE**
An important priority is to ensure that the Vienna and Geneva Conventions on Road Traffic allow the use of connected and automated vehicles on public roads, and to consider a revision of vehicle and traffic safety regulations within this context.

b. **Adapting national regulations**
Member States should identify and, where possible, remove legal barriers to the testing and deployment of connected and automated vehicles, based on a learning-by-experience approach.

c. **Learning by Experience**
Member States are encouraged to create possibilities for large-scale cross-border testing of connected and automated driving technologies, based on a common European approach, by:
   - facilitating an exchange of best practices in Member States and between Member States;
   - testing of connected and automated driving technologies in various circumstances, such as cross-border corridors, urban networks and rural settings; and
   - sharing of common principles to enable cross-border testing of connected and automated driving, based on mutual recognition.

d. **Informal high-level structural dialogue**
Member States are invited to contribute to a high-level structural dialogue on connected and automated driving that:
   - supports, monitors and guides the actions as identified in this Declaration;
   - discusses national developments and deployment issues;
   - gives recommendations to the European Commission;
   - works with the Commission and industry, including SMEs;
   - facilitates the exchange of best practices between Member States;
   - maintains a strategic overview of existing EU platforms and working groups.

Member States are welcome to join this initiative at any stage and are invited to make full use of the experience gained so far and best practices.

IV ACTION BY THE EUROPEAN COMMISSION

a. to develop a shared **European strategy** on connected and automated driving, based upon the shared objectives of this Declaration, as well as through strengthening the links between existing platforms such as the C-ITS Platform, Gear 2030 and the Round Table on Connected and Automated Driving;

b. to consider the continuation of the **C-ITS platform** for the deployment of interoperable C-ITS in the EU and to widen its scope to include infrastructure related aspects, traffic management and road safety for connected and automated driving;

c. to review, and where necessary, adapt the **EU regulatory framework** to support the development and use of automated and connected driving, respecting the principle of subsidiarity. A more coordinated approach at EU level should not necessarily result in new rules, but should especially create added value in contributing to a joint learning process;

d. to develop a coordinated approach towards **research and innovation** activities in the field of connected and automated driving, within the Energy Union Research, Innovation and Competitiveness Strategy and its Strategic Transport Research and Innovation Agenda, bringing together the work of the EU and of Member States.

V ACTION BY INDUSTRY

a. to actively participate in developing the European strategy and agenda on connected and automated driving;

b. to identify areas where public policy and regulatory intervention can help lowering barriers to the development and take-up of new technologies;

c. to develop vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) communication systems (C-ITS) and continue standardisation work to ensure that new services and systems are interoperable at EU level;

d. to recognise that interoperability and standardisation will be key factors in driving scale, both at the European and international level and support the development of standards in the relevant domains;

e. to discuss with public authorities how connected and automated driving can contribute to the availability of reliable data for public tasks (e.g. traffic management);

f. to participate in large-scale pilot deployment projects to explore the societal benefits of connected and automated driving, thereby increasing public awareness, understanding and acceptance;

g. to continue the initiatives taken by the automotive and telecoms industries to identify areas for possible cooperation to support investment in broadband communication and ensure network coverage and reliability;

h. to investigate which performance and safety requirements should apply to mobile communications networks to facilitate connected and automated driving, in conjunction with short-range communications (ITS – G5) to facilitate hybrid communication.